

**Building Diagnostics and Combustion Safety Test Form**  
**Updated Document and Procedures**  
**Effective December 15, 2004**

- 1) The set up sheet and guidelines charts have been removed from the input form. These may be printed as separate documents. This change has provided more room for needed documentation on the form itself.
  - The revised guidelines and charts incorporate additional definitions and slightly modified set-up procedures.
- 2) Page one of the form includes sections which document pre and post weatherization conditions as follows:
  - Step by step BTLA results section, including needed cfm of ventilation both initially, or at the close of job.
  - Step by step modeling of Combustion Appliance Zone (CAZ) depressurization and final depressurization requirements.
  - Clarification of when make-up air is required. Depressurization problems often may be addressed by sealing the distribution system or modifying the equipment. Make-up air is the last option.
  - Clarification of the amount of make-up to add when needed.
  - Documentation of sealing work.
- 3) Page two of the form includes sections which document pre and post weatherization:
  - Building depressurization and worse case CAZ pressures.
  - Gas range carbon monoxide testing.
  - Combustion equipment draft, spillage, and CO measurements.

**Key Issues on Ventilation and Make-up Air:**

- Make-up air is required only when the CAZ is depressurized below the Building Depressurization Guidelines. Often an excessive negative pressure may be addressed by sealing distribution system leaks, modifying the combustion equipment, or modifying the exhaust ventilation.
- Do not assume that an exhaust fan needs to have make-up air to balance the fan. Many houses have enough air to adequately balance the exhaust ventilation. Default to the WI UDC requirements of adding make-up air when the basement is excessively depressurized (or pressurized). Excessive depressurized means that the CAZ pressure is below the appropriate Depressurization Guideline from the chart (Example: Orphaned water heater: CAZ should not go below -2 pascals, adjusted for the baseline pressure) and you cannot fix the problem any other way.
- The ZipTestPro® software formulas do not incorporate any exiting exhaust ventilation into the BTLA calculation. Existing exhaust ventilation maybe counted toward the ventilation requirement. If a building has the potential to be over tightened the control

mechanism may have to be upgraded to allow for more sophisticated operation. There are several pieces of equipment that allow for the initial installation of ventilation, with an adjustment for the final cfm requirement.

Based on feedback from the field, we have incorporated the step by step procedures needed calculate results into the Diagnostic and Combustion Safety form. The form is available both in hard copy and as an electronic workbook.